

## ***EPA - REGION 9 CONDUCTS PROGRAM EVALUATION OF THE STATE DRINKING WATER PROGRAM***

*From USEPA, Region IX letter to Hawaii Safe Drinking Water Branch regarding its annual program review.*



*The many new provisions of the 1996 SDWA amendments necessitate the continued development of new State authorities and programs. This will continue to increase resource demands.*

*The Hawaii PWSS program has an excellent track record in meeting these types of challenges.*

**Barry Pollock, PWSS Project Officer  
Environmental Protection Agency, Region 9**



FY-1999 was an extremely busy, productive, and in many ways transitional year for the Hawaii Public Water System Supervision Program. The full impact of the 1996 Safe Drinking Water Act Amendments began to be felt. The Safe Drinking Water Branch aggressively undertook interim implementation responsibility for the new Consumer Confidence Report rule requirements, providing extensive training and technical assistance to community water systems in how to prepare, complete, and deliver their reports. The CCR rule was adopted (via reference) into Hawaii State regulations. New regulations were developed and adopted, and procedures developed and begun to be implemented, to ensure that all new water systems have technical, managerial, and financial (TMF) capacity; and a strategy was submitted to EPA for review, for ensuring that all existing PWS's also have TMF capacity. Staff worked with the operator certification board and stakeholders to begin the process of revising the State water treatment plant and distribution system operator certification program which meets EPA's guidelines, by February 2001. Work continued on developing a successful Drinking Water State Revolving Fund (DWSRF) loan program, including hiring a new engineer for the branch as well as working on several loans. An EPA-approved State source water assessment program (SWAP) was developed and adopted. Minor corrections were made to the Phase V rule (required under the 1986 SDWA amendments).

The Branch continues to work on bringing all existing surface water treatment plants into full compliance with the SWTR. Phase II and V required monitoring continues, as does implementation of the TCR and lead and copper rules. There was a strong effort to improve and increase communications and outreach to the regulated community (PWS owners and operators), via workshops (CCR, sample collection), presentations (AWWA meetings and other groups), and by a great deal of work in organizing and implementing stakeholder meetings specifically for development of the SWA program, and for beginning work on revising the existing operator certification program to meet new Federal guidelines. The Branch continued to regularly produce and disseminate information to all water systems via the "Water Spot", the SDWB newsletter.

At the end of the year, the SDWB and EPA worked together to integrate the DWSRF setaside funds (2%, 10%, and 15%) into the FY-2000 PWSS workplan for the first time. For the past several years the SDWB has implemented an active sanitary survey program, and this continued in FY-1999. Staff continue working with systems which exceed lead and/or copper action levels. Required reporting to EPA (quarterly inventory and violations to SDWIS; unregulated contaminant results; Annual Compliance Reporting), has generally been timely and accurate.

Despite these accomplishments, a great many challenges remain for the program in FY-2000 and beyond. The State must submit primacy revision packages for rules already promulgated - in particular, the State must submit a primacy package for the Phase V rule as soon as possible. This rule was promulgated as part of the 1986 SDWA amendment requirements. In order for the State to receive "interim primacy" for new rules which will be promulgated as required under the 1996 SDWA amendments (such as the CCR, IESWTR, etc.), all previous rule packages required under the 1986 amendments must have been submitted to and approved by EPA. The Phase V rule package is the only remaining (1986 amendment required) rule which has not yet been submitted to EPA by Hawaii. In FY-2000 the State is also required to submit primacy package for the Consumer Confidence Report Rule, as well as for the revised (statutory and regulatory) PWS definition and administrative penalty authority requirements. Work must continue on development and promulgation of new rules comparable to EPA's already promulgated Interim Enhanced Surface Water Treatment

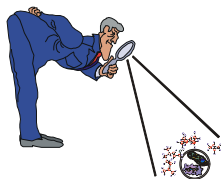
Rule (IESWTR) and Disinfectant/Disinfection Byproduct Rule (D/DBPR). Soon the State will need to begin work on new rules yet to be promulgated by EPA, including Radon, revised Radionuclide, Arsenic, Groundwater, Long Term Enhanced Surface Water Treatment, revised Public Notification, and others. The State must ensure that it has the statutory authority to enforce all aspects of these new rules, including the new sanitary survey requirements in the IESWTR. The DWSRF loan program needs to be fully staffed to ensure its success. Work remains on the development and adoption of a revised operator certification program which will be able to meet the new EPA guidelines. The State must assess, and ultimately decide whether to use, the SDWIS-State database as the primary data management system for the PWSS program. The State and EPA must work together to determine how best to implement the new Unregulated Contaminant Rule in Hawaii. The State must continue to take appropriate and timely enforcement actions against any PWS's in non-compliance with any of the requirements of the drinking water regulations, especially those systems with continuing non-compliance with all the requirements of the surface water treatment rule.

One of the biggest challenges for the program is how to most effectively use all sources of funding currently available for PWSS program implementation. Since 1997, the State has had the option of setting aside some of the DWSRF funds for use for program implementation. To date, there is no clear long term, master plan for using these newly available funds in the most effective manner. EPA strongly recommends that the Department undertake a rigorous review of the long term PWSS program staffing and budget needs, and develop a written plan for the appropriate use of all available sources of funding, including available DWSRF set-aside funds, to ensure that there remains full and adequate staffing and continued long term capability to develop and implement all required aspects of the PWSS program.

The many new provisions of the 1996 SDWA amendments necessitate the continued development of new State authorities and programs. This will continue to increase resource demands. The Hawaii PWSS program has an excellent track record in meeting these types of challenges.

### ***UNREGULATED CONTAMINANT MONITORING REGULATIONS (UCMR), PART 3***

From EPA SUMMARY of New Statutory and Regulatory Requirements for Large and Small Public Water Systems to Conduct Unregulated Contaminant Monitoring



**So what water systems are required to monitor for these unregulated contaminants and what systems were selected by EPA for the small water system monitoring of the unregulated contaminants? What are the requirements that these water systems must meet under the Unregulated Contaminant Monitoring Program? How is the Safe Drinking Water Branch involved in the implementation of the UCMR?**

#### **WHAT IS REQUIRED OF LARGE WATER SYSTEMS?**

1. **Effective implementation date:** 1 January 2001
2. **Applicability, Monitoring Levels, and Monitoring Dates:**

<b>Monitoring Level</b>	<b>Contaminant List</b>	<b>Applicability (large systems)</b>	<b>Monitoring Date</b>
Assessment Monitoring	List 1 (chemical) contaminants	All Community (CWS) and Non-Transient Non-Community (NTNC) water systems serving more than 10,000 persons not purchasing all water from another PWS**	Any 12-month period from 1 January 2001 to 31 December, 2003 (one sampling event must be in vulnerable time)
Screening Survey	List 2 contaminants	Required of 120 randomly selected large systems nation-wide (CWS & NTNC)	Monitoring <b>proposed</b> for 2002 and 2003. <b>Large systems will be notified in future correspondence, if List 2 monitoring is applicable to their system.</b>

Pre-Screen Testing	List 3 contaminants	Required for a small subset of systems (up to 200 nation-wide) that are most vulnerable to List 3 contaminants	Sampling time not specified until methods developed. <b>Large systems will be notified in future correspondence, if List 2 monitoring is applicable to their system.</b>
--------------------	---------------------	--	--

**\*\* Large public water systems (serving over 10,000 people) required to monitor the unregulated contaminants under List 1, Assessment Monitoring, are (by Public Water System number):**



**HAWAII:** 101, 131  
**MAUI:** 212, 213, 214  
**KAUAI:** 413  
**OAHU:** 331, 332, 333, 334, 335, 345, 356, 360, 367

### 3. Monitoring Frequency by Contaminant and Water Source Type:

Contaminant Type	Water Source Type	Frequency
Chemical	Surface Water	12- month timeframe: Four quarterly samples taken as follows: Select either the first, second, or third month of a quarter and sample in that same month of each of four (4) consecutive quarters to ensure that one of those sampling events occurs during the vulnerable time
Chemical	Ground Water	12- month timeframe: Two (2) times in a year taken as follows: Sample during one (1) month of the vulnerable time and during one (1) month five (5) to seven (7) months earlier or later
Microbial	SW & GW	Six (6) times a year: March, June, July, August, September, December. Will be further addressed in future correspondence regarding List 1 and 2 monitoring, if applicable to your system.

4. **Sampling locations:** Entry point to the distribution (or representative Phase II/V sampling points specified by State) for chemicals. Distribution system points (total coliform and THM sampling points) for microbiological contaminants, if List 2 and/or 3 monitoring becomes applicable to your system.
5. **Quality control:** Additional quality control (QC) requirements are specified in the regulation (40 CFR 141.40 Appendix)
6. **Reporting:** Data must be reported using EPA's web-based electronic reporting system by the analytical laboratory after PWS review and approval of submission to EPA; PWS must provide a copy of the results to the State
7. **Data Elements:** All data reported must include the following 16 UCMR Data Elements (many related to sample QC) and appropriate water quality parameters:
 

<ol style="list-style-type: none"> <li>a. Public Water System (PWS) Identification No.</li> <li>b. Public Water System Facility Identification No. - Source, Treatment Plant, and Sampling Point Type Identification</li> <li>c. Sample Collection Date</li> <li>d. Sample Identification Number</li> <li>e. Contaminant/Parameter</li> <li>f. Analytical Results - Sign</li> <li>g. Analytical Result - Value</li> <li>h. Analytical Result - Unit of Measure</li> </ol>	<ol style="list-style-type: none"> <li>i. Analytical Method Number</li> <li>j. Sample Analysis Type</li> <li>k. Sample Batch Identification Number</li> <li>l. Minimum Reporting Level</li> <li>m. Minimum Reporting Level Unit of Measure</li> <li>n. Analytical Precision</li> <li>o. Analytical Accuracy</li> <li>p. Spiking Concentration</li> </ol>
---	--
8. **Public Notification:** Results must be reported to the public under Consumer Confidence Rule and Public Notification requirements.

9. **Guidance Documents:** To assist in the implementation of the UCMR, EPA is developing several guidance and summary information documents. Currently available documents include:
1. *Unregulated Contaminant Monitoring Regulation Analytical Methods and Quality Control Manual* **EPA # 815-R-00-006**
  2. *Supplement to the Unregulated Contaminant Monitoring Regulation Analytical Methods and Quality Control Manual* **EPA # 815-R-00-002**
  3. *Unregulated Contaminant Monitoring Regulation Guidance for Operators of Public Water Systems Serving 10,000 or Fewer People* **EPA # 815-R-99-005**
10. **Criteria for Selecting a Laboratory to Complete the List 1 UCMR Monitoring:** In order to be eligible for completing the analyses for the List 1 UCMR contaminants, a laboratory must meet the following criteria:
1. The laboratory must be certified for the following five EPA methods or the indicated alternative methods:
    - a. EPA 525.2
    - b. EPA 515.1 or EPA 515.2 or 515.3 or 515.4 or D5317-93 or AOAC 992.32
    - c. EPA 508 or EPA 508.1 or EPA 525.2 or D5812-96 or AOAC 990.06
    - d. EPA 507 or EPA 525.2 or D5475-93 or AOAC 991.07
    - e. EPA 524.2 or D5790-95 or SM6210D or SM6200B
  2. The laboratory must have successfully completed the Performance Testing (PT) Program administered by EPA for perchlorate and be approved by EPA for the analysis using EPA method 314.0.

#### **WHAT IS REQUIRED OF THE SMALL LARGE WATER SYSTEMS SELECTED FOR MONITORING?**

1. **Applicability:** A statistically selected, national representative sample of 800 small systems (CWSs and NTNCWSs serving 10,000 or fewer persons) not purchasing all water from another system. **EPA will pay for the laboratory analysis and shipping costs for these selected small public water systems.**

The small public water systems (serving less than 10,000 people) randomly selected by EPA to monitor for the unregulated contaminants under List 1, Assessment Monitoring, are (by year of sampling):



2001: PWS 132, South Kona, Hawaii Department of Water Supply  
 2002: PWS 109, Pahala, Hawaii Department of Water Supply  
 2003: PWS 410, Lihue, Kauai Department of Water

2. **Effective implementation date:** January 1, 2001
3. **Monitoring date:** All selected small systems will be required to monitor during one year of the three Assessment Monitoring years (2001, 2002, and 2003). Index Systems, a subset of 30 small selected systems nation-wide, will be required to monitor every year during the 5-year UCMR cycle.
4. **Monitoring Frequency by Contaminant and Water Source Type:**

Contaminant Type	Water Source Type	Frequency
Chemical	Surface Water	12- month timeframe: Four quarterly samples taken as follows: Select either the first, second, or third month of a quarter and sample in that same month of each of four (4) consecutive quarters to ensure that one of those sampling events occurs during the vulnerable time

<b>Chemical</b>	<b>Ground Water</b>	<b>12- month timeframe: Two (2) times in a year taken as follows: Sample during one (1) month of the vulnerable time and during one (1) month five (5) to seven (7) months earlier or later</b>
<b>Microbial</b>	<b>SW &amp; GW</b>	<b>Six (6) times a year: March, June, July, August, September, December.</b>

5. **Sampling locations:** Entry point to the distribution system (or representative Phase II/V sampling points specified by State) for chemicals and distribution system points (total coliform and THM sampling points) for microbial contaminants
6. **Monitoring levels:** There are three levels of Monitoring, involving different numbers of systems and different contaminant lists:
  - (a) **Assessment Monitoring for List 1 contaminants:** required for the three selected small systems indicated in (1) above.
  - (b) **Screening Survey for List 2 contaminants:** only required of 180 randomly selected small systems nation-wide.
  - (c) **Pre-Screen Testing for List 3 contaminants:** only required for a small subset of systems (up to 200 large and small systems nation-wide) that are most vulnerable to List 3 contaminants.

*[Note: Small Water Systems selected for List 2 and/or List 3 monitoring will be contacted in the near future.]*
7. **Quality control:** Additional quality control (QC) requirements are specified in the regulation (40 CFR 141.40 Appendix) and will be incorporated into your sampling instructions.
8. **Reporting:** Data must be reported by the EPA designated laboratory using EPA's web-based electronic reporting system; system must provide copy of results to the State
9. **Data Elements:** All data reported by the laboratory must include the 16 UCMR Data Elements (many related to sample QC) and appropriate water quality parameters:
 

<ol style="list-style-type: none"> <li>1. Public Water System (PWS) Identification Number</li> <li>2. Public Water System Facility Identification Number - Identification Number &amp; Sampling Point Type Identification</li> <li>3. Sample Collection Date</li> <li>4. Sample Identification Number</li> <li>5. Contaminant/Parameter</li> <li>6. Analytical Results - Sign</li> <li>7. Analytical Result - Value</li> </ol>	<ol style="list-style-type: none"> <li>8. Analytical Result - Unit of Measure</li> <li>9. Analytical Method Number</li> <li>10. Sample Analysis Type</li> <li>11. Sample Batch Identification Number</li> <li>12. Minimum Reporting Level</li> <li>13. Minimum Reporting Level Unit of Measure</li> <li>14. Analytical Precision</li> <li>15. Analytical Accuracy</li> <li>16. Spiking Concentration</li> </ol>
--	---
10. **Public Notification:** Results must be reported to the public under Consumer Confidence Rule (CCR) and Public Notification requirements
11. **Guidance Documents:** To assist in the implementation of the UCMR, EPA is developing several guidance and summary information documents. The most useful and currently available document for small water systems is:
 

*Unregulated Contaminant Monitoring Regulation Guidance for Operators of Public Water Systems Serving 10,000 or Fewer People EPA # 815-R-99-005*

#### **HOW IS THE SAFE DRINKING WATER BRANCH INVOLVED?**

While the State is not required to implement the UCMR, it is encouraged to participate and assist EPA to maximum extent possible as to implement UCMR activities. The Safe Drinking Water Branch is working with EPA to develop a partnership agreement. The partnership agreement is intended to serve as the implementation mechanism for the UCMR by identifying and assigning lead responsibilities for key activities that must be conducted to successfully implement the regulation over the five-year monitoring cycle which begins in 2001 and ends in 2005.

## UPDATE ON THE ARSENIC RULE

*Edited from "Technical Fact Sheet: Proposed Rule for Arsenic in Drinking Water and Clarifications to Compliance and New Source Contaminants Monitoring, May 2000*

The 1996 amendments to the Safe Drinking Water Act directs the Environmental Protection Agency to propose a new arsenic regulation by January 1, 2000 and to issue a final rule by January 1, 2001. The 1996 amendments also added discretionary authority to adjust the maximum contaminant level (MCL) if the benefits would not justify the costs (§1412(b)(6)). This is the first drinking water regulation which will set a standard higher than technically feasible (3 ug/L) because the EPA has determined that the costs would not justify the benefits. This rule would also only require NTNCWS to monitor and report (as opposed to treat) because of cost-benefit considerations and because of the relatively low occurrence for these water systems. The implementation clarifications will more consistently identify exceedances of many drinking water standards and codify existing State requirements for new systems and new source compliance.

The Environmental Protection Agency (EPA) is presently proposing a new drinking water standard of 5 ug/L for arsenic and taking comment on regulatory options of 3 ug/L (the feasible level), 10 ug/L and 20 ug/L. EPA is proposing a Maximum Contaminant Level Goal (MCLG) of zero for arsenic. This proposal also clarifies how compliance is demonstrated for many inorganic and organic contaminants in drinking water.

Community water systems will be required to reduce the arsenic concentration level from the current standard of 50 ug/L to 5 ug/L. The proposal will also require non-transient, non-community water systems to notify people served by these systems when arsenic exceeds the drinking water standard. NTNCWSs are public water systems that are not a CWS and serve at least 25 of the same people more than 6 months per year (e.g. schools and nursing homes).

The proposal also intends to reduce the ambiguities in some existing regulations. Compliance averages will be based on actual number of samples collected. New systems and new sources must demonstrate compliance within the State-specified time and sampling frequencies.

The proposed rule will take effect:

For CWSs serving > 10,000 people — compliance 3 years after the final rule.

For CWSs serving 25 to 10,000 people — compliance 5 years after the final rule.

For NTNCWSs — required to monitor and notify within 3 years after the final rule.

Before the effective date, all CWSs will begin providing health information and arsenic concentrations in their annual consumer confidence report for water that exceeds the new standard.

---

In most drinking water sources, the inorganic form of arsenic tends to be more predominant than organic forms. Inorganic arsenic in drinking water can exert toxic effects after acute (short-term) or chronic (long-term) exposure. Although acute exposures to high doses of inorganic arsenic can cause adverse effects, such exposures do not occur from public water supplies in the United States at the current MCL of 50 ug/L. EPA's proposed drinking water regulation addresses the long-term, chronic effects of exposure to low concentrations of inorganic arsenic in drinking water. Chronic effects at low concentrations include:

- Cancer Effects: skin, bladder, lung, and prostate cancer.
- Non-cancer effects: skin pigmentation and keratosis (callus-like skin growth seen earliest and most often), gastrointestinal, cardiovascular, hormonal (e.g. diabetes), hematological (e.g. anemia), pulmonary, neurological, immunological, reproductive/developmental functions.

The contamination of a drinking water source by arsenic can result from either natural or human activities. Arsenic is an element that occurs naturally in rock and soil, water, air, plants, and animals. Volcanic activity, the erosion of rock and minerals, and forest fires are natural sources that can release arsenic into the environment. Although about 90 percent of the arsenic used by industry in the United States is used for wood preservative purposes, arsenic is also used in paints, drugs, dyes, soaps, metals, and semi-conductors. Burning of fossil fuels and wastes, paper production, glass manufacturing, cement manufacturing, mining and smelting can also release arsenic. While arsenic can no longer be used in making pesticides, weed killers and embalming fluids, the EPA is aware that prior to this ban these substances have contributed to drinking water contamination.

EPA envisions the following benefits from this rule:

Reducing arsenic from 50 ug/L to 5 ug/L - protects an additional 22.5 million Americans and prevents about 20 cases of bladder cancer per year and approximately 5 bladder cancer deaths per year.

At a regulatory option of 3 ug/L, reducing arsenic from 50 ug/L to 3 ug/L - protects an additional 35.7 million Americans and will prevent about 25 cases of bladder cancer and approximately 7 bladder cancer deaths per year.

At a regulatory option of 10 ug/L, reducing arsenic from 50 ug/L to 10 ug/L - protects an additional 10.7 million Americans and will prevent about 13 cases of bladder cancer and approximately 3 bladder cancer deaths per year.

At a regulatory option of 20 ug/L, reducing arsenic from 50 ug/L to 20 ug/L - protects an additional 4.4 million Americans and will prevent about 7 cases of bladder cancer and approximately 2 bladder cancer deaths per year.

EPA expects that arsenic-related lung cancer (that could number as many as two to five times the number of bladder cancers) and cardiovascular diseases will be reduced with a lower standard as well.

For general information on arsenic in drinking water, contact the Safe Drinking Water Hotline at (800) 426-4791, or visit the EPA Safewater website at <http://www.epa.gov/safewater> or the arsenic website at <http://www.epa.gov/safewater/arsenic.html>.

Information available through the Safe Drinking Water Hotline or on the arsenic website includes: arsenic technical fact sheet, Federal Register notice of the proposed arsenic regulation, detailed discussion documents on Arsenic in Drinking Water, and Consumer Fact Sheet on Arsenic in Drinking Water.

### **Arsenic in Hawaii's Drinking Water**

Arsenic is analyzed as part of the inorganic (metals) sampling by the Safe Drinking Water Branch and the State Laboratories Division. Groundwater and surface water systems are annually tested for inorganic (metals) parameters. Arsenic is analyzed by the State Laboratory using method 200.9 at a method detection level of < 2 ug/L. To date, arsenic has not been detected by the Safe Drinking Water Branch's monitoring program. The only detection of arsenic reported was in 1996 at the Honomu Well, Kokee Station, Hawaii Air National Guard on the island of Kauai during its Phase II/V monitoring. The reported level was 1.5 ug/L using Method M200.8 at a method detection level (MDL) of 0.5 ug/L. The Kokee Station, HANG water system has since been terminated as a public water system, although not related to the detection of arsenic.

Based on the results of previous monitoring by the Safe Drinking Water Branch, it is not expected that the new Arsenic Rule will significantly impact Hawaii's public water systems. To ensure the quality of Hawaii's drinking water, the Safe Drinking Water Branch will continue to monitor inorganic contaminants (including arsenic) in Hawaii's public water **systems**.

## ***ALOHA TO MARYANN CRADDOCK – BEST WISHES ON YOUR RETIREMENT!!!***

On September 15, 2000, Maryann Craddock, a chemist with the Department of Health, State Laboratories Division, Environmental Analytical Services Branch, Drinking Water Unit joined the ranks of the retired. After many years of testing Hawaii's drinking water for inorganic chemicals, Maryann is retiring to the sunny shores of New Jersey (don't ask me -- you figure it out!!!), also known as the center of the chemical industry in America (or what smells like one big chemical plant!!!). During her years with the DOH, Maryann has also been responsible for the certification of laboratories for inorganic parameters and for the chlorine proficiency testing of all the drinking water and other samplers on Oahu.

The Safe Drinking Water Branch wishes Maryann the very best in her new found freedom (retirement) and we will miss her!!! But at least she won't have to ask Bruce and I how come we take so long doing our chlorine proficiency test, anymore!!!

As a final farewell, Maryann, you will receive a lifetime subscription to this newsletter -- so you can keep up with all the work we have to do -- and be glad that you retired!!! But only if you leave us your new address??

*The Water Spot 2000 is published by the Safe Drinking Water Branch, Environmental Management Division of the Hawai'i State Department of Health and is distributed to water purveyors, water system operators, staff, consultants, and other interested parties.*

*The Water Spot 2000 may also be viewed on the Safe Drinking Water Branch's web site at:  
<http://www.hawaii.gov/health/eh/sdwb>*

---

*Please send your  
suggestions, ideas,  
questions or  
comments to:*

***THE WATER SPOT 2000***  
***Safe Drinking Water Branch***  
***State Department of Health***  
***919 Ala Moana Blvd., Room 308***  
***Honolulu, Hawaii 96814***

***SDWB WEB SITE:***

***<http://www.hawaii.gov/health/eh/sdwb>***

***HISWAP WEB SITE:***

***<http://www.aloha.net/~will/hiswap.html>***

**OR** Fax us at (808) 586-4370, Attn: "**THE WATER SPOT 2000**"

---



**BENJAMIN J. CAYETANO**  
**Governor of Hawaii**

**BRUCE S. ANDERSON, Ph.D., M.P.H.**  
**Director of Health**

**GARY GILL**  
**Deputy Director for  
Environmental Health**

***The Water Spot 2000 (September/October 2000)***

**Safe Drinking Water Branch  
Environmental Management Division  
Hawai'i Department of Health  
919 Ala Moana Boulevard, Room 308  
Honolulu HI 96814**

**004 H 376**